

# A new genus and species of Acaenitini (Hymenoptera, Ichneumonidae, Acaenitinae) from China

Mao-Ling Sheng<sup>†</sup>, Shu-Ping Sun<sup>‡</sup>

General Station of Forest Pest Management, State Forestry Administration, Shenyang, Liaoning, 110034, China

<sup>†</sup> [urn:lsid:zoobank.org:author:3C0EBDB7-26F7-469B-8DB1-5C7B1C6D9B89](https://doi.org/urn:lsid:zoobank.org:author:3C0EBDB7-26F7-469B-8DB1-5C7B1C6D9B89)

<sup>‡</sup> [urn:lsid:zoobank.org:author:974C0354-6118-4EA9-890F-EF5ECE8F257A](https://doi.org/urn:lsid:zoobank.org:author:974C0354-6118-4EA9-890F-EF5ECE8F257A)

Corresponding author: *Mao-Ling Sheng* ([shengmaoling@163.com](mailto:shengmaoling@163.com))

---

Academic editor: *Gavin Broad* | Received 24 February 2010 | Accepted 20 April 2010 | Published 18 June 2010

---

[urn:lsid:zoobank.org:pub:146E44D8-0BB5-4E59-BC6D-E1E729361498](https://doi.org/urn:lsid:zoobank.org:pub:146E44D8-0BB5-4E59-BC6D-E1E729361498)

---

**Citation:** Sheng M-L, Sun S-P (2010) A new genus and species of Acaenitini (Hymenoptera, Ichneumonidae, Acaenitinae) from China. ZooKeys 49: 87–93. doi: 10.3897/zookeys.49.408

---

## Abstract

*Dentifemura* Sheng & Sun, **gen. n.** and *Dentifemura maculata* Sheng & Sun, **sp. n.** belonging to tribe Acaenitini of subfamily Acaenitinae (Hymenoptera: Ichneumonidae), collected from Jiangxi Province, China, are described.

## Keywords

*Dentifemura*, new genus, new species, taxonomy, China

## Introduction

In the genera of Ichneumonidae (Townes 1971), the subfamily Acaenitinae, family Ichneumonidae (Hymenoptera), comprises two tribes, Acaenitini and Coleocentrini. Wahl and Gauld (1998) suggested “that use of the two tribes be discontinued”, but the catalogue of Yu et al. (2005) follows Townes’s treatment, again with two tribes. The tribe Acaenitini comprises nineteen genera (Townes 1971, Yu et al. 2005). Rather little is known about the biology of Acaenitini. Shaw and Wahl (1989) reported that *Acaeni-*

*tus dubitator* (Panzer) is a koinobiont endoparasitoid of the larva of an endophytic beetle, *Cleonis piger* (Scopoli) (Curculionidae).

Eleven genera of Acaenitini have been reported in China (Sheng and Sun 2009, 2010). The hosts of Acaenitini known in China (Sheng and Sun 2009, 2010) are: *Eriotremex formosanus* (Matsumura) (Hymenoptera: Siricidae), the woodborer of *Castanopsis fabri* Hance (Fagaceae) in Jiangxi Province; *Dendroctonus valens* LeConte (Coleoptera: Scolytidae), the woodborer of *Pinus tabulaeformis* Carr. (Pinaceae) in Henan Province; *Rhyncolus* sp. (Coleoptera: Curculionidae), with larvae in dead wood of *Quercus liaotungensis* Koidz. (Fagaceae) in Liaoning Province, is a new host record for *Jezarotes levis* Sheng, 1999.

In this article, one new genus and its type species, collected in Quannan County, Jiangxi Province, China, are described. Type specimens are deposited in the Insect Museum, General Station of Forest Pest Management, State Forestry Administration, People's Republic of China.

The morphological terminology is mostly that of Gauld (1991). Wing vein nomenclature is based on Ross (1936) and the terminology on Mason (1986, 1990).

***Dentifemura* Sheng & Sun, gen. n.**

urn:lsid:zoobank.org:act:C7C1382E-22D0-4793-AF67-6AC56E3150F4

**Type species:** *Dentifemura maculata* Sheng & Sun, sp. n.

**Etymology.** The name of the new genus is based on the large tooth on the ventral side of the hind femur. The gender is feminine.

**Description.** Fore wing length 9.6 to 10.5 mm. Clypeal suture very weak. Clypeus flat, apical median portion concave, apical margin thin. Lower tooth of mandible as long as or slightly longer than upper tooth. Labrum crescentic, 0.4 to 0.5 as long as wide. Maxillary palps with evenly distributed hairs. Third segment of maxillary palp gradually expanded apically, its apical truncation strongly oblique (Figure 3). Malar space distinctly longer than basal width of mandible. Pedicel relatively long, shortest side approximately as long as widest diameter. Occipital carina complete. Without epomia. Areolet absent. Fore wing vein *2rs-m* basad of *2m-cu*. Ventral profile of hind femur with a strong blunt tooth on hind 0.25. Inner sides of front and middle claws with acute accessory tooth. Hind claws simple. Propodeum evenly sloping from anterior transverse carina to apex, without posterior transverse carina. First tergum evenly and slightly narrowed toward base. First sternite evenly convex sub-basally, with a few erect hairs. Ovipositor sheath about 0.33 times as long as fore wing.

**Remarks.** This new genus is similar to *Jezarotes* Uchida and *Ishigakia* Uchida and can be distinguished from *Jezarotes* in lacking a subapical, strong transverse ridge on the clypeus; the upper tooth of the mandible as long as or slightly shorter than the lower tooth; the median lobe of the mesoscutum is vertical in front; and fore wing vein *2rs-m* is basad of *2m-cu*. In *Jezarotes*, the clypeus has a strong, transverse subapical ridge; the upper tooth of the mandible is very small; the median lobe of the mesoscutum strongly projects forward;

and fore wing vein  $2rs-m$  is distad of  $2m-cu$ . The new genus can be distinguished from *Ishigakia* by the position of fore wing vein  $2rs-m$  (basad of vein  $2m-cu$  in *Dentifemura* gen. n., far distad in *Ishigakia*) and the presence of a conspicuous ventral tooth on the hind femur in *Dentifemura* gen. n.

In Townes's (1971) key to genera, the new genus can be inserted as follows:

5. Clypeus without a transverse ridge or carina next to apex, its apical half rather flat and apical margin thin. Fore wing vein  $2rs-m$  [intercubitus] far distad of  $2m-cu$  [second recurrent vein] (distad by about its length). Oriental Region...  
..... ***Ishigakia***
- Clypeus with a strong transverse preapical ridge that gives its apex a chopped-off appearance; if without such a transverse ridge, fore wing vein  $2rs-m$  basad of  $2m-cu$ ;  $2rs-m$  opposite  $2m-cu$  or a little basad or distad..... **5'**
- 5'. Clypeus without a transverse ridge or carina next to apex. Fore wing vein  $2rs-m$  basad of  $2m-cu$ . Oriental Region (China) ..... ***Dentifemura***
- Clypeus with a strong transverse preapical ridge. Fore wing vein  $2rs-m$  opposite  $2m-cu$  or distad ..... **6**

***Dentifemura maculata* Sheng & Sun, sp. n.**

urn:lsid:zoobank.org:act:E6A590FE-B8F5-4DE3-AFE7-C96528EC196A

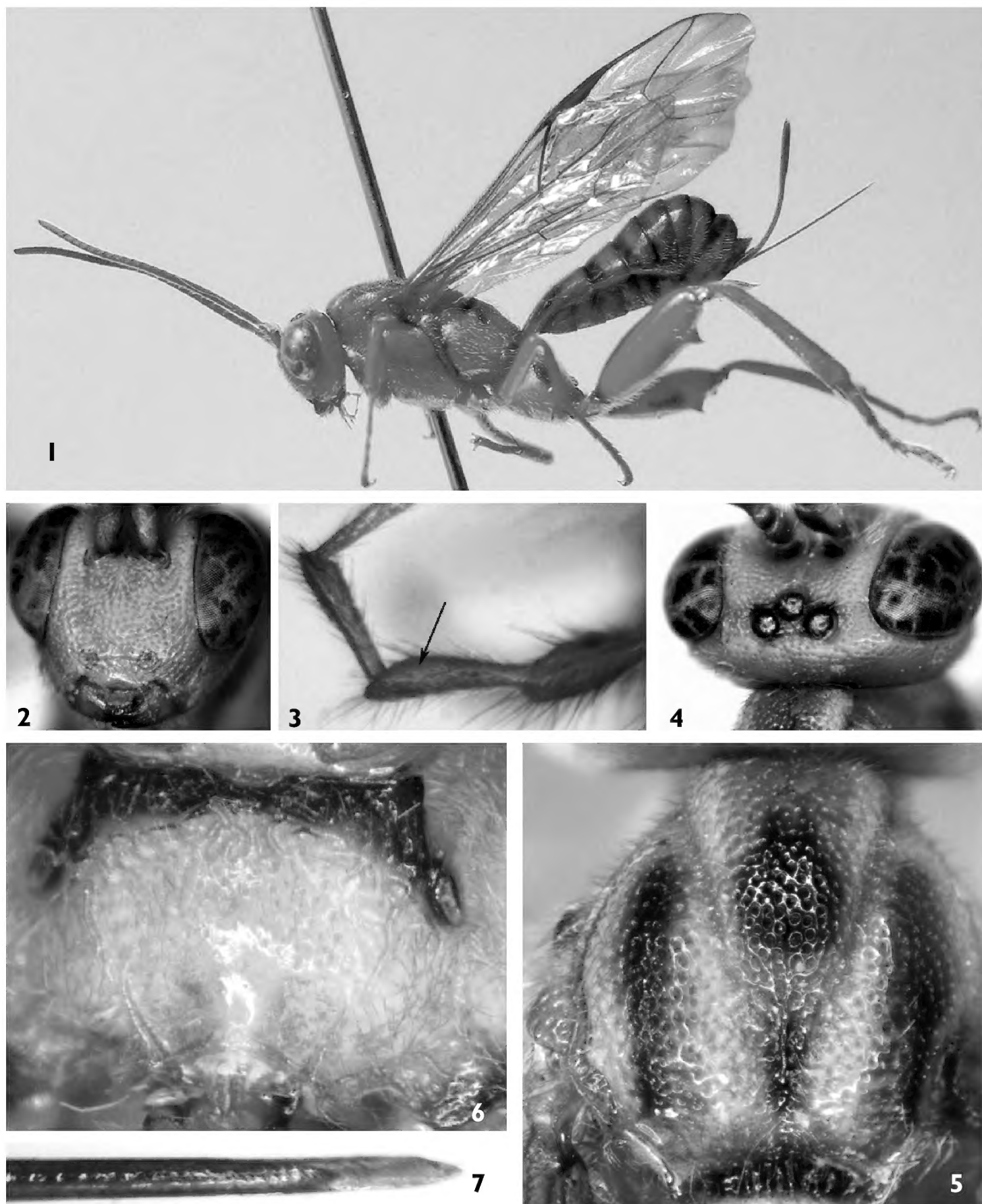
Figures 1–7

**Etymology.** The name of the new species is based on the body colour, which is yellowish brown with black flecks.

**Type material.** *Holotype*, female, CHINA: Quannan County, 530m, Jiangxi Province, 10 June 2008, leg. SHI-CHANG LI. *Paratype*: female, CHINA: Quannan County, 470m, Jiangxi Province, 12 May 2008, leg. SHI-CHANG LI.

**Description.** Female. Body length 10.2 to 11.5 mm. Fore wing length 9.6 to 10.5 mm. Ovipositor length 3.3 to 3.5 mm.

**Head.** Face 1.5 to 1.7 times as wide as long, with dense punctures (Figure 2), median portion convex, upper portion with a median longitudinal carina, reaching to middle ocellus. Clypeal foveae circular. Clypeal suture vestigial between clypeal foveae. Clypeus nearly flat, basal portion with punctures sparser than on face, apical portion smooth and impunctate, apical median portion narrowly concave, apical margin thin. Labrum crescentic, 0.42 to 0.45 as long as wide. Mandible with fine and dense longitudinal lines and unclear fine punctures, lower tooth slightly longer than upper tooth. Cheek with punctures sparser than on face. Malar space 1.18 to 1.23 times as long as basal width of mandible. Subocular sulcus distinct. Gena glossy, with distinct punctures, but gradually finer and more sparsely punctate towards upper portion, in lateral view approximately 0.7 times as long as width of eye, evenly convergent backward. Vertex (Figure 4) with punctures. Lateral margin of lateral ocellus concave. Interocellar area with fine and indistinct punctures. Postero-ocellar line approximately as long as



**Figures 1–7.** *Dentifemura maculata* Sheng & Sun, gen. and sp. n., ♀, holotype. **1** Body, lateral view **2** Face **3** Second to fifth segments of maxillary palpus (arrow indicates the third segment) **4** Vertex **5** Mesoscutum **6** Propodeum **7** Apical portion of ovipositor.

ocular-ocellar line. Frons deeply concave, but laterally more convex, with dense punctures except medially smooth. Antenna length 6.5 to 6.8 mm. Scape slightly wider apically, apical truncation about 40 degrees from transverse. Shortest length of pedicel approximately as long as widest diameter. Antenna with 22 to 23 flagellomeres, ratio of



length of flagellomere 1:2:3:4:5 is 5.0:4.5:4.3:4.0:3.7. Occipital carina complete, medially evenly arched upward.

**Mesosoma.** Pronotum glossy, anterior portion with sparse punctures, apical margin slightly protruding and longitudinally ridge-shaped, laterally concave with distinct transverse wrinkles, upper posterior portion with distinct punctures, distance between punctures 0.2 to 0.5 times diameter of puncture. Without epomia. Mesoscutum with dense punctures (Figure 5), front portion of median lobe vertical, posterior portion with a short median longitudinal carina. Notaulus very strong, almost reaching to posterior margin of mesoscutum. Scutoscuteellar groove with longitudinal wrinkles. Scutellum weakly convex, with sparse and fine punctures, distance between punctures 0.5 to 2.0 times diameter of puncture. Postscutellum smooth, evenly oblique posteriorly, anterior-lateral portion deeply concave. Upper portion of mesopleuron including speculum smooth; lower portion, anterior portion and subtegular ridge with dense and distinct punctures. Without mesopleural fovea. Prepectal carina strong, upper end reaching to mid-height of front margin of mesopleuron. Mesosternum with dense punctures, but comparatively finer than on mesopleuron. Metapleuron smooth, with sparse and fine punctures, distance between punctures 1.0 to 2.0 times diameter of puncture. Juxtacoxal carina absent. Submetapleural carina complete. Wing brownish hyaline. Fore wing vein  $1cu-a$  basad of  $1-M$ , distance between them about 0.3 to 0.4 times length of  $1cu-a$ . Areolet absent. Vein  $2rs-m$  basad of  $2m-cu$ , distance between them approximately as long as or slightly longer than width of vein. Vein  $2-Cu$  approximately as long as  $2cu-a$ . Hind wing vein  $1-cu$  slightly shorter than  $cu-a$ . Legs stout. Ventral profile of hind femur with a strong blunt tooth on hind 0.25. Fourth segment of tarsus very short, in lateral view of hind tarsi, ratio of length of tarsomere 1:2:3:4:5 is 12.0:4.3:4.0:3.0:9.0. Inner sides of front and middle claws with an acute accessory tooth. Hind claws simple. Propodeum (Figure 6) with distinct punctures except apico-median portion polished, with distinct anterior transverse carina, lateral carina of area basalis and lateral longitudinal carina. Area basalis wider than long. Propodeal spiracle obliquely elliptical, approximately 1.6 times as long as maximum width.

**Metasoma.** First tergum 1.9 to 2.0 times as long as apical width, evenly and slightly narrowed toward base, with sparse and fine punctures. Median dorsal carina slightly longer than sternite. Dorsolateral carinae indistinct. Ventrolateral carinae complete. Spiracle transversely elliptical, located slightly anterior of middle. Second and following terga with very sparse and fine punctures, gradually weaker and indistinct. Second tergum approximately 0.5 times as long as apical width. Fourth to sixth terga expanded. Posterior median portions of sixth and seventh terga weakly sclerotized. Apex of hypopygium reaching to or slightly projecting beyond tip of metasoma. Cercus almost reaching to tip of eighth tergum. Ovipositor sheath 1.1 to 1.2 times as long as hind tibia. Ovipositor slightly compressed, apical portion with 4 weak and unclear teeth.

**Colour** (Figure 1). Yellowish brown. Antenna dark brown, scape and dorsal profile of pedicel blackish brown. Dorsal and ventral profiles of front and middle femora and tibiae and tarsi more or less dark brown. Apical portions of front and middle femora, longitudinal line on dorsal profile of hind coxa and small fleck on ventral profile, basal portions of

trochanters, basal portion of hind femur and two longitudinal lines on dorsal and ventral profiles brownish black. Hind tibia reddish brown, tarsus dark brown. Median portion of occipital carina, longitudinal flecks on median and lateral lobes of mesoscutum, scuto-scutellar groove, basal margin of propodeum, oblique longitudinal fleck of first tergum and basal transverse bands of second and third terga black. Apical margin of third tergum, basal and apical median portion of fourth to sixth terga, and median transverse band of seventh tergum dark brown. Fore wing with stigma brown, veins brownish black.

**Remarks.** *Dentifemura* can be recognised by the following combination of characters. The clypeus lacks a transverse ridge or carina next to the apex. The lower tooth of the mandible is slightly longer than the upper tooth. The malar space is about 1.2 times as long as the basal width of the mandible. The third segment of the maxillary palp is gradually expanded apically, its apical truncation strongly oblique. Fore wing vein *2rs-m* is basad of *2m-cu*. In ventral profile, the hind femur has a strong, blunt tooth on the hind 0.25. The fourth tarsomere is very short. On the propodeum, only the anterior transverse carina, the lateral carina of the area basalis and the lateral longitudinal carina are distinct.

**Biology.** Unknown.

## Acknowledgements

The authors are deeply grateful to Dr. Gavin Broad, Dr Ilari Sääksjärvi and an anonymous referee, for reviewing this manuscript, and also thank Shi-Chang Li and Dong-Sun Ding for their help in the course of exploration in Jiangxi Province. This research was supported by the National Natural Science Foundation of China (NSFC, No. 30671686; No. 30872035).

## References

- Gauld ID (1991) The Ichneumonidae of Costa Rica, 1. Introduction, keys to subfamilies, and keys to the species of the lower Pimpliform subfamilies Rhyssinae, Poemeniinae, Acaenitinae and Cylloceriinae. *Memoirs of the American Entomological Institute* 47: 1–589.
- Mason WRM (1986) Standard drawing conventions and definitions for venational and other features of wings of Hymenoptera. *Proceedings of the Entomological Society of Washington* 88: 1–7.
- Mason WRM (1990) Cubitus posterior in Hymenoptera. *Proceedings of the Entomological Society of Washington* 92: 93–97.
- Ross HH (1936) The ancestry and wing venation of the Hymenoptera. *Annals of the Entomological Society of America* 29: 99–111.
- Shaw MR, Wahl DB (1989) The biology, egg and larvae of *Acaenitus dubitator* (Panzer) (Hymenoptera, Ichneumonidae: Acaenitinae). *Systematic Entomology* 14(1): 117–125.
- Sheng ML, Sun SP (2009) Insect fauna of Henan, Hymenoptera: Ichneumonidae. Science Press, Beijing, 340 pp.

- Sheng ML, Sun SP (2010) Ichneumonids parasitizing wood-boring insect pests in China (Hymenoptera: Ichneumonidae). Science Press, Beijing, 380 pp.
- Sheng ML, Wang Y (1999) Study on the genus *Jezarotes* Uchida (Hymenoptera: Ichneumonidae). Acta Entomologica Sinica 42: 92–95.
- Townes HK (1969) The genera of Ichneumonidae, Part 1. Memoirs of the American Entomological Institute 11: 1–300.
- Townes H (1971) The genera of Ichneumonidae, Part 4. Memoirs of the American Entomological Institute 17: 1–372.
- Uchida T (1928) Dritter Beitrag zur Ichneumoniden-Fauna Japans. Journal of the Faculty of Agriculture, Hokkaido University 25: 1–115.
- Wahl DB, Gauld ID (1998) The cladistics and higher classification of the Pimpliformes (Hymenoptera: Ichneumonidae). Systematic Entomology 23(3): 265–298.
- Yu DS, van Achterberg K, Horstmann K (2005) World Ichneumonidae 2004. Taxonomy, Biology, Morphology and Distribution. (CD-ROM). Taxapad.